

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for reducing ~~defect levels~~ the amount of particles and residues in photomasks comprising:

providing a photomask having patterned metal layers;

treating the photomask ~~to~~ with a cleaning process ~~consisting of~~ including:

a solution of ammonium hydroxide, hydrogen peroxide and water maintained at a constant temperature,;

ultrasonic agitation; and

an exposure time greater than about 6 minutes;

removing particles and residues greater than about 0.2 microns while removing a minimal amount of patterned metal layer or layers; and

exercising the cleaning process on a particular photomask for a multiple number of cleaning cycles without degradation of the photomask.

Claim 2 (currently amended): The method of Claim 1 wherein the ratio of ~~reagents~~ ammonium hydroxide:hydrogen peroxide:water of the cleaning solution is from about 1:1:200 to about 1:1:20 respectively by volume.

Claim 3 (currently amended): The method of Claim 1 wherein the minimal amount of metal layer or layers removed during cleaning results in less than an about 6.3% increase in optical transmission.

Claim 4 (currently amended): The method of Claim 1 wherein the constant temperature range of the ~~cleaning~~ solution is from about 15 degrees centigrade to about 60 degrees centigrade.

Claim 5 (currently amended): The method of Claim 1 wherein ~~the pH of the cleaning solution~~ has a pH ~~that is maintained at an alkaline level above a value of about 8.~~

Claim 6 (original): The method of Claim 1 wherein the number of multiple cleaning cycles exercised on a particular photomask without degradation is greater than about ten cleaning cycles.

Claim 7 (currently amended): A method for attenuating yield loss in fabrication of microelectronics fabrications employing phase shift photomasks by reducing ~~defect levels~~ the amount of particles and residues in said photomasks comprising:

~~providing a phase shift photomask having patterned metal layers;~~

providing a phase shift photomask having patterned metal layers;

treating the phase shift photomask ~~to~~ with a cleaning process ~~consisting of~~ including:

a solution of ammonium hydroxide and hydrogen peroxide in water maintained within a constant temperature range;

ultrasonic agitation; and

an exposure time greater than about six minutes;

removing particles greater than about 0.2 microns while removing a minimal amount of patterned metal layers; and

exercising the cleaning ~~procedure~~ process on a particular phase shift photomask for a multiple number of cleaning cycles without degradation of the phase shift photomask.

Claim 8 (original): The method of claim 7 wherein the phase shift mask is formed of patterned layers of chromium and molybdenum silicon alloy.

Claim 9 (currently amended): The method of Claim 7 wherein the ratio of ~~reagents~~ ammonium hydroxide:hydrogen peroxide:water in the ~~cleaning~~ solution ranges from about 1:1:200 to about 1:1:20 by volume respectively.

Claim 10 (currently amended): The method of Claim 7 whereby the minimal amount of metal layers removed by the cleaning process is equivalent to less than an about 6.3% increase in optical transmittance.

Claim 11 (currently amended): The method of Claim 7 whereby the constant temperature range of the ~~cleaning~~ solution is from about 15 degrees centigrade to about 60 degrees centigrade.

Claim 12 (currently amended): The method of Claim 7 wherein the pH of the cleaning solution has a pH ~~that is maintained at an alkaline level~~ greater than ~~a value of~~ about 8.

Claim 13 (currently amended): The method of claim 7 wherein the number of cleaning cycles ~~which may be~~ exercised on a particular phase shift photomask without degradation is greater than ten cycles.

Claim 14 (new): The method of claim 1, wherein the photomask includes a transparent substrate.

Claim 15 (new): The method of claim 1, wherein the photomask includes a fused quartz substrate.

Claim 16 (new): The method of claim 7, wherein the photomask includes a transparent substrate.

Claim 17 (new): The method of claim 7, wherein the photomask includes a fused quartz substrate.

Amendments to the Drawings:

Enclosed is substitute drawing sheet 1/2 with changes to Fig. 2. Specifically, "10" was added to Fig. 2 as described at page 7 of the specification as filed. Approval of these drawing changes is respectfully requested.